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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,501	06/29/2004	John Barry Hughes	GB 020001	4387
24737	7590	03/30/2006		
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
			EXAMINER GLENN, KIMBERLY E	
			ART UNIT 2817	PAPER NUMBER

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,501

Applicant(s)

HUGHES, JOHN BARRY

Examiner

Kimberly E. Glenn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,6,7,11 and 12 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 8-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/29/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Mattisson et al US Patent 6,577,212.

Mattisson et al disclose in figure 1, a gyrator cell 2. The core of the gyrator cell comprises four CMOS inverter circuits 4, 6, 8, 10, which are arranged in a loop, with the output of each inverter being connected to the input of the next. The gyrator has first and second differential inputs i_1 , i_2 , and first and second differential outputs o_1 , o_2 . The cell also includes an input common mode feedback network 12, comprising inverters 14, 16, 18, 20, and an output common mode feedback network 22, comprising inverters 24, 26, 28, 30. The inverters may be conventional CMOS inverters (figure 2). Mattisson et al states that each MOS transistor in the gyrator core has series feedback added thereto. FIG. 3 shows a transistor 42 and feedback circuit 44. The feedback circuit 44 comprises the parallel combination of a feedback resistor R_f and capacitor C_f connected to the source terminal of the transistor. The capacitance c_f of the capacitor C_f is equal to the gate drain capacitance c_{gd} .

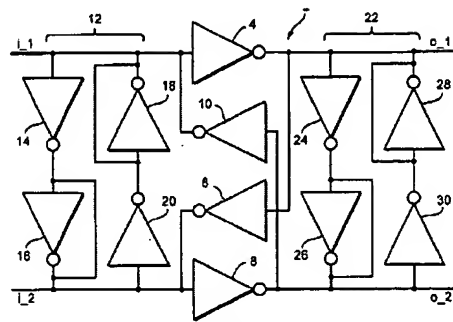


FIG. 1

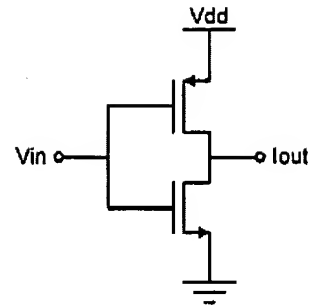


FIG. 2

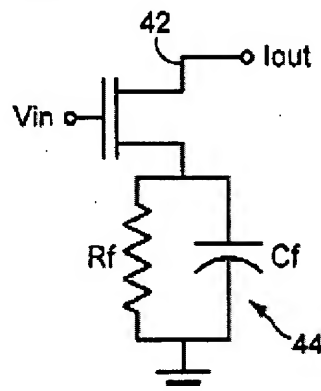


FIG. 3

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

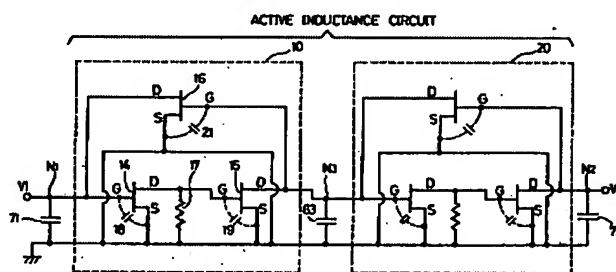
Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara US Patent 5,202,655 in view of Mattisson et al US Patent 6,577,212.

The primary reference Hara discloses in figure 1 an active low pass filter using pseudo gyrators. The low pass filter includes an active inductor circuit implemented by two pseudo gyrator circuits 10 and 20, and a capacitor 63. Pseudo gyrator circuits 10

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and 20 form a cascade connection via a common connection node N3. Capacitor 63 is connected between node N3 and ground. A capacitor 71 is connected between input node N1 of pseudo gyrator circuit 10 and ground. A capacitor 72 is connected between output node N2 of pseudo gyrator circuit 20 and ground.

FIG. 1



Thus, Hara is shown to teach all the limitation of the claims with the exception of each of the first and second gyrators comprises a plurality of feedback MOS single-ended interconnected feedforward and transconductors, balanced inputs and outputs, common mode feedback means coupled respectively between the and means for balanced inputs and outputs, providing each of the transconductors with a non-reciprocal feedback capacitance for rendering reciprocal the feed through capacitance of the transconductor thereby neutralizing the feed through capacitance of the gyrator.

Mattisson et al disclose in figure 1, a gyrator cell 2. The core of the gyrator cell comprises four CMOS inverter circuits 4, 6, 8, 10, which are arranged in a loop, with the output of each inverter being connected to the input of the next. The gyrator has first and second differential inputs i_1 , i_2 , and first and second differential outputs o_1 , o_2 . The cell also includes an input common mode feedback network 12, comprising

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inverters 14, 16, 18, 20, and an output common mode feedback network 22, comprising inverters 24, 26, 28, 30. The inverters may be conventional CMOS inverters (figure 2). Mattisson et al states that each MOS transistor in the gyrator core has series feedback added thereto. FIG. 3 shows a transistor 42 and feedback circuit 44. The feedback circuit 44 comprises the parallel combination of a feedback resistor R_f and capacitor C_f connected to the source terminal of the transistor. The capacitance c_f of the capacitor C_f is equal to the gate drain capacitance c_{gd} .

One of ordinary skill in the art would have found to obvious to replace the gyrator circuits of Hara with the gyrators circuit as taught by Mattisson et al. The motivation for this modification would have been to provide a gyrator circuit, which compensates for channel delay.

Allowable Subject Matter

Claims 2-5 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Fattaruso US Patent 6,150,884, Brown US Patent 6,194,972, Mattisson US Patent 6,335,659, Huckins et al US Patent 6,731,163 and Marholev US Patent 7,002,403.

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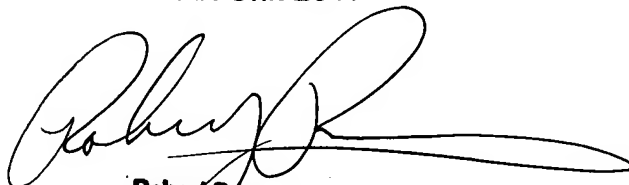
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E. Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn
Examiner
Art Unit 2817

3/28/06 keg



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800